

Source: BT  
Title: Comments on H.310  
Purpose: Discussion

*This contribution contains comments on the 21 December version of H.310 (AVC-868v1.0). The differences between ROT terminals and the specifications being produced elsewhere, such as the DAVIC STU and J.82, and the problems these cause in H.310 are not listed here, but are described in AVC-899.*

### **1. Scope**

The actual number of different 'profiles' or types of terminal, and the means of referring to them is confusing throughout the document. Sometimes uni-directional and bi-directional are used, sometimes ROT, SOT and RAST. Then later we have RAST-C and RAST-P. The scope says that there are two classes of uni-directional terminal, ROT and SOT, but later we find AAL1 and AAL5 variants.

It would be much better if all these different terminals are identified in the scope, given names, and then these names are used later in the specification. When a requirement is placed on more than one of these, it should, whenever practical, be written once, rather than repeated, for example, once for RAST and once for ROT and SOT.

Throughout the document there are many footnotes. These often contain vital pieces of information. Readability of the document would be greatly improved if these were included in the main body of the text, and preceded by the word 'NOTE', as is usual in ITU Recommendations.

### **2. References**

H.245 is not in the list of references.

### **3. Definitions**

Shall, Should and May should either be in a section titled Conventions, as in the editors note and in H.324, or at the front of the document, on the same page as the forward, as in H.245. Despite the presence of this clarification, the word 'must' appears quite frequently: all occurrences of 'must' should be changed to 'shall'.

There are no definitions or abbreviations. Necessary ones should be defined: RAST, RAST-P, RAST-C, ROT, SOT, DSM-CC, FR-SSCS, CPCS, VC, etc..

### **4. Applications**

Should the text of this section be moved to the scope section?

### **5. System Description**

Almost all of the recommendation has been put in this section. A structure similar to that of H.324 may be beneficial: make a section on functional requirements, with subsections on required elements, signalling, multiplex, video, audio and data; and another section on procedures.

#### **5.1 System Configuration**

Figure 1 does not show H.242, or H.230, but does show H.221. What is the purpose of this figure, given that the protocol reference model is shown on the next page? Perhaps it should be moved to the scope section, as in H.324, especially as the dotted rectangle, labelled H.310, seems to be indicating scope.

Figure 2 is also missing H.242 feeding into H.221. This diagram has been drawn with a different style to the other diagrams, presumably because it has been imported from another package. Could it be redrawn for consistency of style? The notes following the figure need reconsideration now that they are part of H.310. Reference to the RTI in the text and figure should be removed. Whether these notes are needed should be considered. Perhaps the important points could be written into real text rather than notes to a figure.

#### **5.2.1.1 Video Capabilities**

Is it necessary to go into detail of what can optionally be supported. Surely anything can be optionally supported? It would be better to say that other profiles and levels can be optionally supported.

There is a paragraph that says that when a conformance point is supported, that the full parameter range shall be supported. H.245 allows terminals to indicate the capability of features of a profile and level, while only having capability for a reduced set of 'level' parameters. This was done as there is little evidence that the parameters put into H.262 for higher profiles and levels were particularly appropriate. A note should be added to clarify this.

As earlier, it should be possible to replace all the text about H.263 with a simple statement that terminals may support H.263, including all of its picture formats and options. This protects H.310 from modifications to H.263, which are not of real interest to H.310.

#### **5.2.1.2 Audio Capabilities**

Is the ITU-T G-series, with a short list ended with 'etc.', really an audio coding standard? Later, G.711 is a single recommendation (not recommendations).

Again, is the list of optional G series recommendations really needed? More useful would be a comment that the optional support of these can be determined using H.245.

The terms MPEG-1 and MPEG-2 should be avoided.

#### **5.2.1.3 Data Capabilities**

It is strongly recommended that T.84 and T.434 be removed from the list of data protocols as these are very unlikely to be used, particularly as the later paragraph mandates T.120 support when these might be used.

Again, the list of options is unnecessary, but the first sentence could be kept, with the word 'following' removed.

#### **5.2.2.1 Multimedia Multiplex and Synchronisation**

It states that for RAST-C terminals, H.221 must be supported in the terminal or in the gateway. How is this difference signalled? that is, how does the gateway know whether it must perform the H.221 multiplexing?

##### **5.2.2.2.1 AAL for H.221/H.222.1 Multiplex Audiovisual signals**

The paragraph on AAL5 error detection looks mostly inappropriate. 'the CPCS sublayer must use the length field to detect that the right number of bytes has been received' describes an untestable internal design matter. To what higher layer are errors reported? this IS the system recommendation. The whole of this paragraph (and the next?) could be deleted, as this should be in H.222.1.

AAL1 contains many options. It is important to specify which ones are mandatory for RAST. 'Plain' AAL1 should be mandatory: no SDT, no SRTS, no FEC, and no interleaving. Other modes, such as FEC only and FEC and interleaving, both without SDT and without SRTS, could also be recommended, to aid interoperability, including that with J.82.

The text suggests that it is possible to have an AAL1 only RAST-C terminal. Is this right, and if so, how is it determined whether the gateway is needed for AAL conversion?

#### **5.2.2.2.2 AAL for Data**

T.123 should be referenced for the transport of T.120 data, for both single and separate VC cases. The protocol reference model is just for information, as it contains no detail whatsoever.

#### **5.2.2.2.3 AAL for H.245**

Reference should be made to an annex that describes how to do this in detail for the single and separate VC cases. This text was originally in H.245, then H.222.1, and should now be put into H.310.

#### **5.2.3.2.3 Video frame synchronous control and indication signalling**

To answer the editor's question, these signals should be supported by ROT and SOT terminals. In particular, freeze picture release is needed to restart after a H.245 freeze picture command.

Table 1 is presumably ASN.1 notation. It is necessary to say this, and how it should be encoded. Also, it is incomplete as header and trailer stuff are needed. Look at H.245 to see how this has been done.

#### **5.4 H.310 Terminal Types**

This text defining the different terminal types would be better placed earlier in the document, for example, in the scope.

The purpose of the optional columns of the tables in this section is not clear. Are we saying, for example, that H.261 and H.263 are not even optional in ROT and SOT terminals? Would a SOT terminal that was found capable of H.261 be deemed a non-compliant H.310 terminal? Removing the optional columns would make these tables smaller and more readable.

Section 5.2 describes in words what is in the tables of section 5.4. Surely it is better to have the table right after the text that is relevant to it?

What is footnote 31 referring to?

Footnote 36 lists possible B-HLI codepoints. Entries include SOT AAL1, SOT AAL5, SOT AAL1 and AAL5. Would it be better to allow a set of these to be listed in the Information Element, so that entries of the third type are not needed, and so that a terminal can indicate RAST and ROT/SOT capabilities?

Footnote 39 asks whether we should be more specific about selecting modes after the capability exchange. Perhaps too much is stated already: why enforce the highest common mode? In any case, with dependent capabilities, what does highest common mode mean? For example, is H.261 QCIF and G.728 higher or lower than H.261 CIF and G.711?

Phase A2 should mandate a capability exchange, by invoking the capability exchange protocol. AVC-877 contains suitable text.

Should phase A2 mandate the master slave determination? It has been stated that this could be ignored and the calling terminal always become the master (or slave), but this suffers two problems. Firstly, it may not be clear which is the calling terminal in the case of using a PVC connection, and secondly, it may prevent an MCU from choosing whether it wants to be the master of slave. It is therefore recommended that the use of the master slave protocol be mandated.

To answer the editor's question, the choice of communication mode can be made by either the master or the slave. It is only in the case of simultaneous conflicting requests that the master takes precedence.

Phase B and phase C descriptions require much more detail. Note that H.324 has a complete section on maintenance loops.

Figure 3 shows call procedures for ROT and SOT. This suggests that logical channels are setup and released using PSI and PSM rather than using the acknowledged procedures of H.245. The Yokosuka meeting agreed that ROT and SOT should use acknowledged rather than unacknowledged procedures.

**Other issues**

There has been some confusion about the bit and byte order of H.245. This was addressed in H.324 by the addition of an informative appendix. This could be modified and included in H.310.

END